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Bad Research and High Impact: The *Science: So What* Campaign and Social Media Criticism

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Introduction

This paper offers a case study of how bad research can achieve high impact, through considering how a poor-quality report (Talwar and Hancock, 2010) was used as part of the UK government's *Science: So What? So Everything* science communication campaign. The intervention discusses how broader and less hierarchical participation can have worthwhile impact in challenging bad government-backed research, and engages with questions of what impact might be and what might be achieved through impact assessment.

Pain et al. (2011) suggest using broad ways of measuring impact in order to include more aspects of process: addressing concerns about a Research Excellence Framework (REF) focus on elite research users. The case analysed here is interesting as an example of how a diffuse network challenged poor government-backed research, suggesting that impacts taking place beyond (and often as a challenge to) elite research users might strengthen both research and impact. It is thus important to consider broader and more bottom-up processes, rather than focusing on elite research beneficiaries and the assessment of top-down impact (see Rogers et al., this issue, for wider context).

Social media is used here as an example of 'bottom-up' and less hierarchical types of engagement. It is therefore worth acknowledging that questions of research



with/on/for/by can become complex – for example, this paper quotes a senior scientist (who has published on statistics) using Twitter to critique the statistics in a published paper. However, this complexity and the disruption of certain hierarchies is, in itself, part of what makes social media interesting. Social media might ultimately work “to disrupt binaries of core/periphery, research/impact and academic/public” (Gibson and Gibbs, 2013, 87).

Science: So What? So Everything

Science: So What? was a Department for Business Innovation and Skills (BIS) science communications campaign.² This campaign aimed to get readers to “look again at science: what is it doing for us already? How is it going to drive us to a better future? Why not take a look around, and see how science is touching you”.³

In January 2010, BIS was promoting *Science: So What?* As part of its campaign, it commissioned and publicised a poor-quality report from the Fast Future consultancy: ‘The Shape of Jobs to Come’ (Talwar and Hancock, 2010). While questions of research quality are not divorced from broader political issues (my critique of this campaign is influenced by my own political positions) I would argue that academics can usefully practice criticism of government-backed research in the Foucauldian sense where “[p]ractising criticism is a matter of making facile gestures difficult” (Foucault, 1988, 155). ‘The Shape of Jobs to Come’ includes numerous facile gestures. For example, it fails to adequately discuss the implications of various limitations to the survey answers, including a very uneven geographical distribution. The report seriously over-generalises from its data, to the extent of making claims about the popularity of particular jobs in South America based on approximately fifteen survey responses from the region (Talwar and Hancock, 2010, 45). The report also reproduces passages from online sources in unhelpful ways, and makes inappropriate use of Wikipedia.⁴

Despite this, the report was backed by impressive and supportive quotes from the Government. Then Prime Minister Gordon Brown stated that “[t]he *shape of jobs to come* shows what might be on offer for the next generation. I hope it will inspire young people to gain the skills and training they will need to succeed”⁵. Lord Drayson (then Science Minister) responded to the report by arguing that “[t]hese jobs are no longer the stuff of dreams. Today's schoolchildren could become our first generation of scientists to build a flying car or help reverse climate change!”⁶ The report got prominent and predominantly positive media coverage on

²The archived website is available at

<http://tna.europarchive.org/20100630051843/http://sciencesowhat.direct.gov.uk/>

³ <http://tna.europarchive.org/20100630051843/http://sciencesowhat.direct.gov.uk/about/about-us/about-this-site>

⁴ See <http://www.timeshighereducation.co.uk/story.asp?storyCode=410353§ioncode=26>

⁵ <http://fastfuture.com/?p=129>

⁶ <http://www.familyrapp.com/edurapp/butcher-baker-body-part-maker-futurists-vote-on-tomorrows-jobs/>

the BBC Radio 4 Today Programme and in the Guardian⁷, the Sky News website⁸ the Telegraph⁹ and other outlets.

How impact can be achieved

‘The Shape of Jobs to Come’ demonstrates that poor-quality research can gain significant media attention and support from politicians – does this constitute impact? Kindred – the Public Relations (PR) agency behind the campaign – assessed impact by noting that the report achieved “178 pieces of coverage across national, regional, consumer and online media ... A combined OTS [opportunities to see] of 60,985,597 ... An AEV [Advertising Equivalent Value] of £2,248,866”.¹⁰ However, this assessment has limitations and does not adequately consider the quality of the engagement and of the research.¹¹

Impact can also take place in other ways. The report was partly spread through social media: with some tweeting of (in particular) ‘mainstream’ media coverage of this. However, more prominently and interestingly, the report was criticised on social media (which fed through into ‘mainstream’ media criticisms).¹² Criticism – often using Twitter as a platform, alongside blog posts – largely came from those who did not do this type of research for a living. Science bloggers (a category which includes bloggers ranging from practising academic scientists to interested laypeople) were especially prominent.¹³

Criticism of the campaign had a number of impacts. It pushed *Science: So What?* towards more meaningful engagement with social media and generated interesting ideas in itself. For example, criticising the campaign did get people discussing what more robust evidence there might be about the future and future jobs. The strong criticism of this campaign also affected some of those working in the sector.

There is then the question of where the impact lies. The initial report achieved large-scale impact, in a sense, and was supported by a number of elite research users. However, while there is a skill in promoting a report in this way, it is not generally a positive thing when good PR and related work allows bad research to achieve a high profile. There was, though, more diffuse impact achieved through social media and related channels – a range of people engaging with bad government-backed research and practice, and generating better thinking

⁷ <http://www.guardian.co.uk/science/2010/jan/14/futurists-predict-radical-job-changes>

⁸ <http://news.sky.com/story/751875/space-pilot-wanted-jobs-of-the-future>

⁹ <http://www.telegraph.co.uk/news/uknews/6983353/Space-tour-guide-a-job-of-the-future-says-government-report.html>

¹⁰ BIS response to Freedom of Information Act (FOIA) request.

¹¹ There was also a clumsy assessment of online impact: Kindred apparently viewed 1000 more hits per day for six days as an achievement whereas, for a campaign of this scale, it would have been more appropriately viewed as disappointing (BIS response to FOIA request).

¹² The author of this intervention was one of these critics.

¹³ For further discussion of who blogs about science, see for example Bell 2012; Mendel and Riesch forthcoming.

in the process.¹⁴ However, this is not the type of thing that can easily be assessed through formal processes; it is not, for example, amenable to such straightforward (if controversial) metrics as AEV. Temporality is also an issue here, and it is harder to assess 2010 events today because of limitations with possibilities for looking back on Twitter (some blog posts are also now inaccessible).¹⁵ There are therefore questions about, for example, how online work might be viewed in the context of public engagement by academics – are there appropriate ways to assess and credit impact through social media work?

Social media: speed and depth

One reviewer of this intervention observed (correctly) that social media discussion takes place on different timescales to academic research. One can tweet about a paper seconds after (or without) reading it, while even publishing a short journal response takes notably longer. Social media may therefore be viewed as privileging speed over depth. However, while this clearly is the case with some social media, the work of science bloggers offers an interesting counter-example in certain instances. With *Science: So What*, social media responses were able to offer relatively fast *and* in-depth challenges to seemingly hasty claims in the report: for example, to over-optimistic claims about nano-technology and medicine.¹⁶ If anything, social media discussions sometimes added depth that the original report lacked. Social media can, though, be relatively transient and the aforementioned difficulty in finding older tweets means it will also be helpful to draw an example from more recent discussions than *Science: So What*.

Social media engagement with research can be substantive and biting. David Colquhoun's response to a BioMedCentral paper on Ginseng is an interesting example.¹⁷ It began with a snappy tweet @BioMedCentral "Why do you publish this nonsense? [sic]" The discussion became more interesting, though, when @BioMedCentral tweeted back "Why not? We should be promoting all sorts of research, that anyone can engage with, as an #openaccess publisher." Colquhoun then offered an argument for 'why not': tweeting very quickly that the paper "is underpowered, human effects are tiny and authors have CoI... and no correction for multiple comparisons, no specified primary outcome...surrogate outcomes

¹⁴ I should note that – while I would view the bottom-up research and impact seen in this case as broadly politically positive – I would certainly not argue that this type of intervention is *necessarily* positive. Simply noting that work is bottom-up or decentralised does not remove the need for political engagement, nor the need to consider the quality of the intervention. In the UK, right-wing movements such as the UK Independence Party and the English Defence League are currently achieving significant impact through work which is often highly decentralised and bottom-up. This does not, in itself, mean that their political and intellectual moves are convincing nor that their politics should be supported.

¹⁵ There are also ethical issues with using some social media data: for example, even where one could link online discussions in forums such as Twitter this would mean publicising what participants may have seen as semi-private spaces in ways they would not have expected at the time.

¹⁶ <http://10minus9.wordpress.com/2010/01/19/nano-medics-of-the-future-so-what/>

¹⁷ http://storify.com/david_colquhoun/post-publication-peer-review-on-twitter-ginseng-pa?utm_content=storify-pingback&utm_medium=sfy.co-twitter&utm_campaign=&utm_source=direct-sfy.co&awesm=sfy.co_t7O5

irrelevant until primary effect demonstrated.” Others also participated. For example Andy Lewis argued that “The publication of quack research harms people. Such studies are simply [sic] used to promote health nonsense.”¹⁸

Speed is an important aspect of social media – one of the striking things about the exchanges discussed above is how quickly serious issues with the *Science: So What* report and the BioMedCentral paper were picked up – but this does not come at the expense of depth. Instead, depth is achieved at speed, albeit in a potentially transient fashion.

Conclusions

There are limits to how much one can generalise from the case of a single government initiative and a more recent Twitter exchange. However, the cases analysed here offer examples of how more diffuse and less hierarchical impact can be linked to better-quality thinking than government-backed research and government public engagement initiatives, as well as offering a biting engagement with some published research.

These cases suggest that there is merit in following Pain, Kesby and Askins’ (2011) aforementioned suggestion to incorporate wide aspects of impact in our discussions: broader engagement might be important for creating more worthwhile impacts. While the Higher Education Funding Council for England’s criteria mean that REF impact case studies need to show impact arising from excellent research¹⁹, a focus on wider aspects of impact and engagement might allow a shift away from a simpler – more auditable – concentration on impacts arising from academic research publications. Instead of just searching for impacts of university-produced knowledge beyond the university, we might move far beyond PR to consider and enable “co-production of knowledge between universities and communities” (Pain et al., 2011) – a productive engagement between universities, researchers and communities that makes various facile gestures more difficult.

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¹⁸http://storify.com/david_colquhoun/post-publication-peer-review-on-twitter-ginseng-pa?utm_content=storify-pingback&utm_medium=sfy.co-twitter&utm_campaign=&utm_source=direct-sfy.co&awesm=sfy.co_t7O5

¹⁹ http://www.ref.ac.uk/media/ref/content/pub/decisionsonassessingresearchimpact/01_11.pdf

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